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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/798,351

03/12/2004

Koji Horisaki

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02/24/2009

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EXAMINER

HARPER, KEVIN C

ART UNIT

PAPER NUMBER

2416

NOTIFICATION DATE

DELIVERY MODE

02/24/2009

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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<b>Office Action Summary</b>	<b>Application No.</b> 10/798,351	<b>Applicant(s)</b> HORISAKI, KOJI	
	<b>Examiner</b> Kevin C. Harper	<b>Art Unit</b> 2416	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 17 October 2008.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-8 and 11-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 8 and 11-18 is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

***Response to Arguments***

Applicant's arguments filed October 17, 2008 have been fully considered but they are not persuasive. Nevertheless, a new ground of rejection is presented in view of Anzai.

1. Applicant argued that Rick does not disclose determining a deviation of a frequency of the received signal based on the detected deviation of the first signal and that of the second signal. However, the short term and long term average deviations are determined (fig. 3, short term average > threshold (no), and long term average > threshold) and based on those determinations the frequency deviation of the signal is adjusted (items 166 and 170).

***Claim Rejections - 35 USC § 103***

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rick et al. (US 2005/0078774) in view of Anzai (US 6,041,085).

2. Regarding claim 1, Rick discloses a method of frequency adjustment (fig. 3) comprising receiving a signal having a first signal and a second signal (para. 29 and para. 30, lines 8-16; note: short term and long term signal samples), detecting a deviation of frequency of a first signal having a short cycle time (para. 12, lines 4-8), detecting a second signal having a longer cycle time (para. 12, lines 4-8), and determining a frequency deviation of the received signal on the basis of the deviation of the first and second signal (fig. 3, short term average > threshold (no), and long term average > threshold), and adjusting the frequency of the received signal (para. 12, lines 8-13).

Art Unit: 2416

3. However, Rick does not disclose the received signal is delayed by a delay time corresponding to a cycle time. Anzai discloses using a delay time to determine frequency deviation (fig. 2A, col. 2, lines 54-58 and col. 5, lines 17-19). Therefore, it would have been obvious to one skilled in the art at the time the invention was made to use a delay in the invention of Rick in order to properly determine a frequency deviation of a signal (Anzai, col. 3, lines 1-6 and 30-32).

4. Regarding claim 2, in Rick a range of frequency deviation based on the first signal is defined (fig. 3, short term average > threshold) and determining a frequency deviation within the range on the basis of the detection result of the frequency deviation of the second signal (fig. 3, long term average > threshold; para. 11; note: long-term threshold value is lower than the short-term threshold value).

5. Regarding claim 3, in Rick a frequency deviation is determined based on a synthetic combination of the frequency deviation of the second signal and the first signal (fig. 3, short term average > threshold (no), and long term average > threshold; para. 11; note: long-term threshold value is lower than the short term threshold value and both values are used to determine frequency deviation - fig. 3, step 166; para. 39).

6. Regarding claim 4, a set of values is used in the determination of frequency deviation (para. 30, lines 6-12).

7. Regarding claims 5-6, these limitations have been addressed in the rejection of claims 1-4 above.

Claims 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rick in view of Anzai as applied to claim 1 above, and further in view of Applicant's admitted prior art.

Art Unit: 2416

8. Regarding claim 7, Rick does not disclose applying the frequency adjusting technique to OFDM. Applicant's admitted prior art discloses OFDM (specification, page 2). Therefore, it would have been obvious to one skilled in the art at the time the invention was made to apply the frequency adjusting technique of Rick to OFDM because one skilled in the art would realize the predictable result of controlling the frequency drift of a signal (see *KSR Int'l Co v. Teleflex, Inc.*, 2007).

***Allowable Subject Matter***

Claims 8 and 11-18 are allowed.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin Harper whose telephone number is 571-272-3166. The examiner can normally be reached weekdays from 11:00 AM to 7:00 PM ET.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bill Trost, can be reached at 571-272-7872. The centralized fax number for the Patent Office is 571-273-8300. For non-official communications, the examiner's personal fax number is 571-273-3166 and the examiner's e-mail address is kevin.harper@uspto.gov.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications associated with a customer number is available through Private PAIR only. For more information about the PAIR system, see [portal.uspto.gov](http://portal.uspto.gov). Should you have questions on

Art Unit: 2416

access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Kevin C. Harper/

Primary Examiner, Art Unit 2416

February 15, 2009